

WHAT IS CLAIMED IS:

1. A near field light generating device, comprising:
a light emitting element that emits light from its exit
surface; and

5 a thin film that is formed on the exit surface and gains a
light transmitting property when irradiated with light from said
light emitting element.

2. A near field light generating device according to Claim
1, wherein said thin film changes its state from crystalline to
amorphous when irradiated with light from said light emitting
element.

3. A near field light generating device according to Claim
1, wherein said thin film returns to a crystalline state from
an amorphous state when the light emission is stopped.

4. A near field light generating device according to Claim
1, wherein said thin film essentially consists of inorganic
material having a melting point of 350°C or lower.

5. A near field light generating device according to Claim
1, wherein said thin film essentially consists of inorganic
20 material having a melting point of 150°C or lower.

6. A near field light generating device according to Claim
1, wherein said thin film essentially consists of organic
material having a low melting point.

7. A near field light generating device according to Claim 1, further comprising a heat diffusion preventing film between the light exit surface and the thin film.

8. A near field light generating device according to Claim 1, wherein said light emitting element includes semiconductor laser device.

9. A near field light generating device, comprising:
a light emitting element that emits light from its exit surface; and
a thin film that is formed on the exit surface and gains a light transmitting property when heated.

10. A near field light generating device according to Claim 9, wherein said thin film changes its state from crystalline to amorphous when heated.

11. A near field light generating device according to Claim 9, wherein said thin film returns to a crystalline state from an amorphous state when the heating is stopped.

12. A near field light generating device according to Claim 9, wherein said thin film essentially consists of inorganic material having a melting point of 350°C or lower.

13. A near field light generating device according to Claim 9, wherein said thin film essentially consists of inorganic material having a melting point of 150°C or lower.

SiO₂: amorphous

*SiO₂ 3,900.865
5,355,385
AlO
SiO₂: low melting
base*

14. A near field light generating device according to Claim 9, wherein said thin film essentially consists of organic material having a low melting point.

5 ~~15~~ 15. A near field light generating device according to Claim 9, further comprising a heat diffusion preventing film between the light exit surface and the thin film

16. A near field light generating device according to Claim 9, wherein said light emitting element includes semiconductor laser device.

17. A near field light generating device according to Claim 9, wherein said thin film is heated by the light emitted from said light emitting element.